

MIGRATORY BEHAVIOUR IN BIRDS P.1

INTRODUCTION — Since the dawn of civilization on the horizon of this earth, the birds of migration has been one of the most fascinating and spectacular behaviours not only for ornithologists. But even for a casual observer of animal life and still it remains a zoological riddle. When the nature of the old home become unsuitable and nature does not clasp affectionately, the fear of gradual extinction of their species compelled them to proceed on to migratory roads and since then the process is continuing. Desire for migration has become an obligatory phase in the life cycle of the avian species. Human reasoning faces bewildered while trying to grasp the underlying mechanism of migration. How and what urges the untaught and unaccompanied young birds to make their maiden voyage and return to

their home land at an approximately fixed time and controlled destination.

Migration has been approximately defined as "the periodic swing of an animal population from a part of population nesting and feeding place to a resting place and resting place."

BASIS OF MIGRATORY BEHAVIOUR-

There are several factors responsible for the behaviour migration in birds.

1. EXOGENOUS INITIATING FACTORS —

Under varying of environmental status (availability of food), photoperiod (availability of light during day) and temperature (giving warmth) may initiate migratory behaviour. H. Rowen (1925) demonstrated that light treated birds show typical migratory activity. It has been experimentally proved that fat deposition and migratory restlessness

can be regulated artificially by using prolonged day lengths and photoperiodic manipulation in association with endogenous factors.

2. ENDOGENOUS CONTROLLING FACTORS —

The ripening of sex organs in birds causes a physiological change which leads to an impulse for migration. W. Rowes (1925) proposed that the migration is stimulated by the hormones secreted by the testis and ovary.

3. CHRONOBIOLOGICAL FACTORS —

In addition to the exogenous and endogenous factors there is a certain time keeping machinery inside the body known as the 'biological clock' or the internal chronometer.

The most promising components of this time keeping machinery are brain, nervous and the pineal gland. It has been experimentally proved that pinealectomy abolishes migratory

restlessness.

Schematic representation of the body weight and zugunruhe (restlessness) of a typical migrant over year period.

